

Dark Morph Rough-legged Hawks

Percentage of Dark Morphs: Where do they breed?

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Rough-legged Hawks occur in dark and light morphs as shown in Figures 1 and 2. Intermediates are uncommon. On 11 March 2006, hawk counter Phil Waggett (*Ontbirds*) recorded 2 light morph and 13 dark morph Rough-legged Hawks passing the Niagara Peninsula Hawkwatch (Beamer) near Grimsby, Ontario. This high number of dark morph birds made me wonder what percent of the population is dark morph and where they nest.



Figure 1. Dark morph Rough-legged Hawk by Brandon Holden.

Dark Morph Percentages: What are the percentages of dark morph Rough-legged Hawks in different geographical areas? Interestingly, dark morphs are absent to exceedingly rare in Eurasian populations (Bechard and Swem 2002). In North America, there is a higher percent of dark morphs in the east than in the west. This is opposite to other hawks with dark morphs (e.g. Red-tailed Hawk) or dark subspecies (e.g. Black Merlin, Peale's Peregrine Falcon) whose dark forms are more frequent in the west. For the Rough-legged Hawk, Sibley (2000) says "dark morph 10 percent in west and up to 40 percent in east". Wheeler (2003a) reports 20% of the migrants at Hawk Ridge in Duluth, Minnesota are dark morphs (*vide* Frank Nicoletti). Wheeler (2003b) reports 7% dark morphs wintering on the western Great Plains and only 5% in Montana (*vide* Chad Olson). In southern Ontario, Colin Horstead (pers. comm.) counted Rough-legged Hawks in spring of 2005 and 2006 at Beamer and fall of 2005 at Hawk Cliff plus roadside winter counts in 2005/6. Horstead had a combined total of 350 individuals with a ratio of 148 light morph to 202 dark morph or 42% light morph and 58% dark morph. He reports an increase in dark morph numbers since 2002. Proportions of light and dark morph birds likely vary over time depending on prey cycles and geographical distribution of morphs during the breeding seasons and the laws of chance.

Where Do Dark Morphs Breed? Manning et al. (1956) reported that dark morph Rough-legged Hawks are uncommon breeders above the tree line in Canada where the light morph greatly predominates. So where do the dark morph birds nest that we see in eastern North America? Most apparently breed east of Hudson Bay in Quebec and Labrador (Palmer 1988, Wheeler 2003a). This huge region is interspersed with forests and barrens and many cliffs for nesting. This agrees with Gloger's Rule which states that dark pigments increase in humid parts of the breeding range and lighter pigments prevail in drier regions. Not surprisingly, the moist Ungava Peninsula of Quebec has the darkest Gyrfalcons (almost black) in the world and adjacent moist Labrador has the highest percentage of dark morph Parasitic Jaegers (40%) breeding in Canada (Pittaway 1995). This supports northern Quebec and Labrador as the source of most dark morph Rough-legged Hawks seen in eastern North America.

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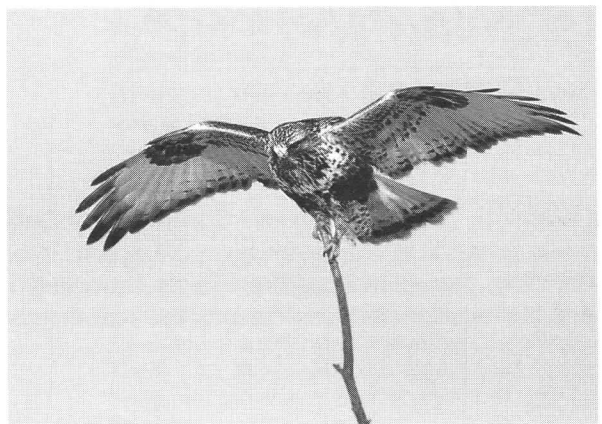


Figure 2. Light morph Rough-legged Hawk by Brandon Holden.